UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS PO. Box 1450 Alexandria, Virgima 22313-1450

NOTICE OF ALLOWANCE AND FEE(S) DUE

51921 7590 09202011 MARK D. SARALINO (PAN) RENNER, OTTO, BOISSELLE & SKLAR, LLP 1621 EUCLID AVENUE 19TH FLOOR CLEVELAND, OH 44115

EXAMINER DINH, TAN X				
2/27	•			

DATE MAILED: 09/20/2011

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,875	05/12/2008	Garret J. Buban	YAMAP1017US	3829

TITLE OF INVENTION: DATA RECORDING/REPRODUCTION FOR WRITE-ONCE DISCS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	12/20/2011

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450

or Fax (571)-273-2885

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09/20/2011

MARK D. SARALINO (PAN) RENNER, OTTO, BOISSELLE & SKLAR, LLP 1621 EUCLID AVENUE

19TH FLOOR

51921

CLEVELAND, OH 44115

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

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I hereby certify that this Feeds (Tansmitted is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (5/11) 273-22885, on the date indicated below.

(Depositor's name (Signatu (Dat

APPLICATION NO FILING DATE FIRST NAMED INVENTOR ATTORNEY DOCKET NO. CONFIRMATION NO 10/597 875 05/12/2008 Garret I. Ruban VAMAPIOI7US 3820 TITLE OF INVENTION: DATA RECORDING/REPRODUCTION FOR WRITE-ONCE DISCS

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nonprovisional	NO	\$1510	\$300	\$0	\$1810	12/20/2011		
EXAMINER ART UNIT		ART UNIT	CLASS-SUBCLASS					
DINH, TAN X 2627		2627	369-053240	369-053240				
CFR 1.363). Change of corres Address form PTO/S Fee Address" in PTO/SB/47; Rev 03- Number is required ASSIGNEE NAME 4	AND RESIDENCE DATA	inge of Correspondence " Indication form ed. Use of a Customer A TO BE PRINTED ON	or agents OR, alternativ	3 registered patent attorn yely, e firm (having as a memb agent) and the names of up meys or agents. If no nam printed.	er a 2 o to e is 3	ment has been filed fo		
(A) NAME OF ASS Please check the approp	IGNEE oriate assignee category or	categories (will not be p	_	and STATE OR COUNT		entity Governmen		
4a. The following fee(s) are submitted: Issue Fee Publication Fee (No small entity discount permitted) Advance Order - # of Copies			b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above) A check is enclosed. Payment by credit card. Form PTO-2038 is attached. The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number (enclose an extra copy of this form).					
a. Applicant clair	atus (from status indicate ns SMALL ENTITY statu nd Publication Fee (if req e records of the United Sta	as. See 37 CFR 1.27.	b. Applicant is no long	ger claiming SMALL ENT the applicant; a registered a				
Authorized Signature	e			Date				

Typed or printed name Registration No. This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for rectucing this burden, should be sent to the Chief Information Officer. U.S. Patest and Trademark Officer. U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 2231-450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 2231-450.

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CLEVELAND, OH 44115

DINH, TAN X

ART UNIT PAPER NUMBER
2627

DATE MAILED: 09/20/2011

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 696 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 696 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

- The information on this form will be treated confidentially to the extent allowed under the Freedom
 of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of
 records may be disclosed to the Department of Justice to determine whether disclosure of these
 records is required by the Freedom of Information Act.
- A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
- 3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
- 4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
- 5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
- A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
- 7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2004 and 2006. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals
- 8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
- A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

	Application No.	Applicant(s)			
Notice of Allowability	10/597,875	BUBAN ET AL.			
Notice of Allowability	Examiner	Art Unit			
	TAN X. DINH	2627			
The MAILING DATE of this communication appe All claims being allowable, PROSECUTION ON THE MERITS IS. herewith (or previously mailed), a Notice of Allowance (PTOL-85) NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RI of the Office or upon petition by the applicant. See 37 CFR 1.313	(OR REMAINS) CLOSED in this app or other appropriate communication GHTS. This application is subject to	olication. If not include will be mailed in due	ed course. THIS		
 This communication is responsive to <u>9/07/11</u>. 					
 An election was made by the applicant in response to a rest requirement and election have been incorporated into this action. 	riction requirement set forth during the	ne interview on	; the restriction		
 The allowed claim(s) is/are <u>13-16</u>. 					
Acknowledgment is made of a claim for foreign priority unde a) ☑ All b) ☐ Some* c) ☐ None of the: 1. ☐ Certified copies of the priority documents have 2. ☐ Certified copies of the priority documents have	been received.				
Oppies of the certified copies of the priority doc			tion from the		
International Bureau (PCT Rule 17.2(a)).					
* Certified copies not received:					
Applicant has THREE MONTHS FROM THE "MAILING DATE" on noted below. Failure to timely comply will result in ABANDONM THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.		complying with the red	quirements		
 A SUBSTITUTE OATH OR DECLARATION must be submit INFORMAL PATENT APPLICATION (PTO-152) which give 			OTICE OF		
CORRECTED DRAWINGS (as "replacement sheets") must	be submitted.				
 (a) including changes required by the Notice of Draftspers 	on's Patent Drawing Review (PTO-	948) attached			
1) ☐ hereto or 2) ☐ to Paper No./Mail Date					
(b) including changes required by the attached Examiner's Paper No./Mail Date					
Identifying Indicia such as the application number (see 37 CFR 1. each sheet. Replacement sheet(s) should be labeled as such in the			back) of		
 DEPOSIT OF and/or INFORMATION about the deposit of B attached Examiner's comment regarding REQUIREMENT FC 					
Attachment(s) 1. Notice of References Cited (PTO-892)	5. Notice of Informal P				
Notice of Praftperson's Patent Drawing Review (PTO-948)	6. ☐ Interview Summary				
_ , , , ,	Paper No./Mail Dat	e			
 Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 6/08/11 		7. Examiner's Amendment/Comment			
 Examiner's Comment Regarding Requirement for Deposit of Biological Material 	8. 🛛 Examiners Stateme	8. X Examiner's Statement of Reasons for Allowance			
	9. Other				
IIS Patent and Trademark Office					

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1) The amendment/preliminary amendment filed 9/07/2011 is acknowledged. Claims 1-12 have been canceled. New claims 13-16 are currently added.

2) Claims 13-16 are allowed.

The recording method for instructing a drive apparatus having a pseudo- overwrite function to write data on a write-once disc, the write-once disc including a volume space comprising a plurality of tracks, said pseudo-overwriting function allowing the drive apparatus to write data into an unrecorded area in response to an instruction to write said data into an already recorded area by replacement operation, the recording method comprising the steps of:

- (a) receiving a write request which specifies at least data for a file to be written,
- (b) instructing the drive apparatus to read a file entry of a metadata file which contains metadata for managing the file from a location of the write-once disc, so as to obtain the file entry of the metadata file,
- (c) obtaining track information indicating a location of each of the plurality of tracks,

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(d) determining a track from the plurality of tracks in which metadata is to be written next, based on the file entry of the metadata file and the track information,

- (e) instructing the drive apparatus to read the metadata from a location of the write-once disc, so as to obtain the metadata,
- (f) obtaining a next writable address indicating a location at which data is to be written next within a track other than the track determined in the step (d), the track being selected from the plurality of tracks,
- (g) updating the metadata to reflect the writing of the data specified by the write request,
- (h) instructing the drive apparatus to write the data specified by the write request to a location indicated by the next writable address in the write-once disc, and
- (i) instructing the drive apparatus to write at least a part of the updated metadata to the location from which the metadata is read in the step (e) in the write- once disc.

characterized by further comprising the steps of:

determining whether or not a next writable address within the track determined in the step (d) is valid,

when it is determined that the next writable address within the track determined in the step (d) is not valid, instructing the drive apparatus to allocate a first track in which metadata is to be

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the prior art of record.

written next and a second track in which data is to be written next, and updating the next writable address obtained in the step (f) to a next writable address within the second track, determining whether or not the first track is allocated and at least the part of the updated metadata is written in the first track, and, when it is determined that the first track is allocated and at least the part of the updated metadata is written in the first track, updating the file entry of the metadata file to reflect the writing of at least the part of the updated metadata and instructing the drive apparatus to write the updated file entry of the metadata file at the location from which the file entry of the metadata file is read in step (b), as recited in the independent claims, are not found or suggested in

3) Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAN Xuan DINH whose telephone number is 571-272-7586. The examiner can normally be reached on MONDAY-FRIDAY from 9:00AM to 5:00PM.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see http://portal.uspto.gov/external/portal. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/TAN X DINH/ Primary Examiner, Art Unit 2627 September 9, 2011